

PCT

REQUEST

The undersigned requests that the present international application be processed according to the Patent Cooperation Treaty.

For receiving Office use only

International Application No.

International Filing Date

Name of receiving Office and "PCT International Application"

Applicant's or agent's file reference
(if desired) (12 characters maximum)

PO2001-41PCT

Box No. I TITLE OF INVENTION

**HEAT DISSIPATION TYPE SEMICONDUCTOR PACKAGE AND METHOD OF
FABRICATING THE SAME**

Box No. II APPLICANT

☒ This person is also inventor

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

KIM, Young Sun

**101-903 Chungkye Byucksan APT.,
258 Hawangsi-pri-dong, Seungdong-gu,
Seoul 133-773, Republic of Korea**

Telephone No. **82-02-2282-5846**Facsimile No. **82-031-716-6581**

Teleprinter No.

Applicant's registration No. with the Office

State (that is, country) of nationality:

KR

State (that is, country) of residence:

KRThis person is applicant
for the purposes of:all designated
Statesall designated States except
the United States of Americathe United States
of America onlythe States indicated in
the Supplemental Box

Box No. III FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S)

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

This person is:



applicant only



applicant and inventor

inventor only (If this check-box
is marked, do not fill in below.)

Applicant's registration No. with the Office

State (that is, country) of nationality:

State (that is, country) of residence:

This person is applicant
for the purposes of:all designated
Statesall designated States except
the United States of Americathe United States
of America onlythe States indicated in
the Supplemental Box☐ Further applicants and/or (further) inventors are indicated on a continuation sheet.

Box No. IV AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCE

The person identified below is hereby/has been appointed to act on behalf
of the applicant(s) before the competent International Authorities as:

agent

common
representative

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

JEON, Young Il

**#4202, Trade Tower, World Trade Center,
Kangnam-ku, Seoul 135-729, Republic of Korea**

Telephone No. **82-2-551-8934**Facsimile No. **82-2-551-8938**

Teleprinter No.

Agent's registration No. with the Office

☐ Address for correspondence: Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.

Box No.V DESIGNATION OF STATES

Mark the applicable check-boxes below; at least one must be marked.

The following designations are hereby made under Rule 4.9(a):

Regional Patent

- ☒ **AP ARIPO Patent:** GH Ghana, GM Gambia, KE Kenya, LS Lesotho, MW Malawi, MZ Mozambique, SD Sudan, SL Sierra Leone, SZ Swaziland, TZ United Republic of Tanzania, UG Uganda, ZW Zimbabwe, and any other State which is a Contracting State of the Harare Protocol and of the PCT
- ☒ **EA Eurasian Patent:** AM Armenia, AZ Azerbaijan, BY Belarus, KG Kyrgyzstan, KZ Kazakhstan, MD Republic of Moldova, RU Russian Federation, TJ Tajikistan, TM Turkmenistan, and any other State which is a Contracting State of the Eurasian Patent Convention and of the PCT
- ☒ **EP European Patent:** AT Austria, BE Belgium, CH & LI Switzerland and Liechtenstein, CY Cyprus, DE Germany, DK Denmark, ES Spain, FI Finland, FR France, GB United Kingdom, GR Greece, IE Ireland, IT Italy, LU Luxembourg, MC Monaco, NL Netherlands, PT Portugal, SE Sweden, TR Turkey, and any other State which is a Contracting State of the European Patent Convention and of the PCT
- ☒ **OA OAPI Patent:** BF Burkina Faso, BJ Benin, CF Central African Republic, CG Congo, CI Côte d'Ivoire, CM Cameroon, GA Gabon, GN Guinea, GW Guinea-Bissau, ML Mali, MR Mauritania, NE Niger, SN Senegal, TD Chad, TG Togo, and any other State which is a member State of OAPI and a Contracting State of the PCT (if other kind of protection or treatment desired, specify on dotted line)

National Patent (if other kind of protection or treatment desired, specify on dotted line):

- | | | |
|---|--|--|
| <input checked="" type="checkbox"/> AE United Arab Emirates | <input checked="" type="checkbox"/> GE Georgia | <input checked="" type="checkbox"/> MW Malawi |
| <input checked="" type="checkbox"/> AG Antigua and Barbuda | <input checked="" type="checkbox"/> GH Ghana | <input checked="" type="checkbox"/> MX Mexico |
| <input checked="" type="checkbox"/> AL Albania | <input checked="" type="checkbox"/> GM Gambia | <input checked="" type="checkbox"/> MZ Mozambique |
| <input checked="" type="checkbox"/> AM Armenia | <input checked="" type="checkbox"/> HR Croatia | <input checked="" type="checkbox"/> NO Norway |
| <input checked="" type="checkbox"/> AT Austria | <input checked="" type="checkbox"/> HU Hungary | <input checked="" type="checkbox"/> NZ New Zealand |
| <input checked="" type="checkbox"/> AU Australia | <input checked="" type="checkbox"/> ID Indonesia | <input checked="" type="checkbox"/> PL Poland |
| <input checked="" type="checkbox"/> AZ Azerbaijan | <input checked="" type="checkbox"/> IL Israel | <input checked="" type="checkbox"/> PT Portugal |
| <input checked="" type="checkbox"/> BA Bosnia and Herzegovina | <input checked="" type="checkbox"/> IN India | <input checked="" type="checkbox"/> RO Romania |
| | <input checked="" type="checkbox"/> IS Iceland | <input checked="" type="checkbox"/> RU Russian Federation |
| <input checked="" type="checkbox"/> BB Barbados | <input checked="" type="checkbox"/> JP Japan | |
| <input checked="" type="checkbox"/> BG Bulgaria | <input checked="" type="checkbox"/> KE Kenya | <input checked="" type="checkbox"/> SD Sudan |
| <input checked="" type="checkbox"/> BR Brazil | <input checked="" type="checkbox"/> KG Kyrgyzstan | <input checked="" type="checkbox"/> SE Sweden |
| <input checked="" type="checkbox"/> BY Belarus | <input checked="" type="checkbox"/> KP Democratic People's Republic of Korea | <input checked="" type="checkbox"/> SG Singapore |
| <input checked="" type="checkbox"/> BZ Belize | <input checked="" type="checkbox"/> KR Republic of Korea | <input checked="" type="checkbox"/> SI Slovenia |
| <input checked="" type="checkbox"/> CA Canada | <input checked="" type="checkbox"/> KZ Kazakhstan | <input checked="" type="checkbox"/> SK Slovakia |
| <input checked="" type="checkbox"/> CH & LI Switzerland and Liechtenstein | <input checked="" type="checkbox"/> LC Saint Lucia | <input checked="" type="checkbox"/> SL Sierra Leone |
| <input checked="" type="checkbox"/> CN China | <input checked="" type="checkbox"/> LK Sri Lanka | <input checked="" type="checkbox"/> TJ Tajikistan |
| <input checked="" type="checkbox"/> CO Colombia | <input checked="" type="checkbox"/> LR Liberia | <input checked="" type="checkbox"/> TM Turkmenistan |
| <input checked="" type="checkbox"/> CR Costa Rica | <input checked="" type="checkbox"/> LS Lesotho | <input checked="" type="checkbox"/> TR Turkey |
| <input checked="" type="checkbox"/> CU Cuba | <input checked="" type="checkbox"/> LT Lithuania | <input checked="" type="checkbox"/> TT Trinidad and Tobago |
| <input checked="" type="checkbox"/> CZ Czech Republic | <input checked="" type="checkbox"/> LU Luxembourg | <input checked="" type="checkbox"/> TZ United Republic of Tanzania |
| <input checked="" type="checkbox"/> DE Germany | <input checked="" type="checkbox"/> LV Latvia | <input checked="" type="checkbox"/> UA Ukraine |
| <input checked="" type="checkbox"/> DK Denmark | <input checked="" type="checkbox"/> MA Morocco | <input checked="" type="checkbox"/> UG Uganda |
| <input checked="" type="checkbox"/> DM Dominica | <input checked="" type="checkbox"/> MD Republic of Moldova | <input checked="" type="checkbox"/> US United States of America |
| <input checked="" type="checkbox"/> DZ Algeria | | <input checked="" type="checkbox"/> UZ Uzbekistan |
| <input checked="" type="checkbox"/> EE Estonia | <input checked="" type="checkbox"/> MG Madagascar | <input checked="" type="checkbox"/> VN Viet Nam |
| <input checked="" type="checkbox"/> ES Spain | <input checked="" type="checkbox"/> MK The former Yugoslav Republic of Macedonia | <input checked="" type="checkbox"/> YU Yugoslavia |
| <input checked="" type="checkbox"/> FI Finland | <input checked="" type="checkbox"/> MN Mongolia | <input checked="" type="checkbox"/> ZA South Africa |
| <input checked="" type="checkbox"/> GB United Kingdom | | <input checked="" type="checkbox"/> ZW Zimbabwe |
| <input checked="" type="checkbox"/> GD Grenada | | |

Check-boxes below reserved for designating States which have become party to the PCT after issuance of this sheet:

- | | | |
|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Precautionary Designation Statement: In addition to the designations made above, the applicant also makes under Rule 4.9(b) all other designations which would be permitted under the PCT except any designation(s) indicated in the Supplemental Box as being excluded from the scope of this statement. The applicant declares that those additional designations are subject to confirmation and that any designation which is not confirmed before the expiration of 15 months from the priority date is to be regarded as withdrawn by the applicant at the expiration of that time limit. (Confirmation (including fees) must reach the receiving Office within the 15-month time limit.)

Box No. VI PRIORITY CLAIM

The priority of the following earlier application(s) is hereby claimed:

Filing date of earlier application (day/month/year)	Number of earlier application	Where earlier application is:		
		national application: country	regional application:* regional Office	international application: receiving Office
item (1) 31 January 2001 (31,01,2001)	2001-0004711	KR		
item (2)				
item (3)				
item (4)				
item (5)				

☐ Further priority claims are indicated in the Supplemental Box.

The receiving Office is requested to prepare and transmit to the International Bureau a certified copy of the earlier application(s) (*only if the earlier application was filed with the Office which for the purposes of this international application is the receiving Office*) identified above as:

☐ all items
 ☒ item (1)
 ☐ item (2)
 ☐ item (3)
 ☐ item (4)
 ☐ item (5)
 ☐ other, see Supplemental Box

* Where the earlier application is an ARIPO application, indicate at least one country party to the Paris Convention for the Protection of Industrial Property or one Member of the World Trade Organization for which that earlier application was filed (Rule 4.10(b)(ii)). . . .

Box No. VII INTERNATIONAL SEARCHING AUTHORITY

Choice of International Searching Authority (ISA) (if two or more International Searching Authorities are competent to carry out the international search, indicate the Authority chosen; the two-letter code may be used):

ISA / **KR**

Request to use results of earlier search; reference to that search (if an earlier search has been carried out by or requested from the International Searching Authority):

Date (day/month/year)

Number

Country (or regional Office)

Box No. VIII DECLARATIONS

The following **declarations** are contained in Boxes Nos. VIII (i) to (v) (mark the applicable check-boxes below and indicate in the right column the number of each type of declaration):

Number of
declarations

- | | | |
|---|--|---|
| <input type="checkbox"/> Box No. VIII (i) | Declaration as to the identity of the inventor | : |
| <input type="checkbox"/> Box No. VIII (ii) | Declaration as to the applicant's entitlement, as at the international filing date, to apply for and be granted a patent | : |
| <input type="checkbox"/> Box No. VIII (iii) | Declaration as to the applicant's entitlement, as at the international filing date, to claim the priority of the earlier application | : |
| <input type="checkbox"/> Box No. VIII (iv) | Declaration of inventorship (only for the purposes of the designation of the United States of America) | : |
| <input type="checkbox"/> Box No. VIII (v) | Declaration as to non-prejudicial disclosures or exceptions to lack of novelty | : |

Box No. IX CHECK LIST; LANGUAGE OF FILING

<p>This international application contains:</p> <p>(a) the following number of sheets in paper form:</p> <p>request (including declaration sheets) : 4</p> <p>description (excluding sequence listing part) : 12</p> <p>claims : 8</p> <p>abstract : 1</p> <p>drawings : 4</p> <p>Sub-total number of sheets : 29</p> <p>sequence listing part of description (<i>actual number of sheets if filed in paper form, whether or not also filed in computer readable form; see (b) below</i>) :</p> <p>Total number of sheets : 29</p> <p>(b) sequence listing part of description filed in computer readable form</p> <p>(i) <input type="checkbox"/> only (under Section 801(a)(i))</p> <p>(ii) <input type="checkbox"/> in addition to being filed in paper form (under Section 801(a)(ii))</p> <p>Type and number of carriers (diskette, CD-ROM, CD-R or other) on which the sequence listing part is contained (<i>additional copies to be indicated under item 9(ii), in right column</i>):</p>	<p>This international application is accompanied by the following item(s) (<i>mark the applicable check-boxes below and indicate in right column the number of each item</i>):</p> <p>1. <input checked="" type="checkbox"/> fee calculation sheet :</p> <p>2. <input checked="" type="checkbox"/> original separate power of attorney :</p> <p>3. <input type="checkbox"/> original general power of attorney :</p> <p>4. <input type="checkbox"/> copy of general power of attorney; reference number, if any: :</p> <p>5. <input type="checkbox"/> statement explaining lack of signature :</p> <p>6. <input type="checkbox"/> priority document(s) identified in Box No. VI as item(s): :</p> <p>7. <input type="checkbox"/> translation of international application into (language): :</p> <p>8. <input type="checkbox"/> separate indications concerning deposited microorganism or other biological material :</p> <p>9. <input type="checkbox"/> sequence listing in computer readable form (indicate also type and number of carriers (diskette, CD-ROM, CD-R or other))</p> <p>(i) <input type="checkbox"/> copy submitted for the purposes of international search under Rule 13ter only (and not as part of the international application) :</p> <p>(ii) <input type="checkbox"/> (<i>only where check-box (b)(i) or (b)(ii) is marked in left column</i>) additional copies including, where applicable, the copy for the purposes of international search under Rule 13ter :</p> <p>(iii) <input type="checkbox"/> together with relevant statement as to the identity of the copy or copies with the sequence listing part mentioned in left column :</p> <p>10. <input type="checkbox"/> other (<i>specify</i>): :</p>	<p>Number of items</p>
<p>Figure of the drawings which should accompany the abstract: 6</p>	<p>Language of filing of the international application: English</p>	

Box No. X SIGNATURE OF APPLICANT, AGENT OR COMMON REPRESENTATIVE

Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the request).

JEON, Young II

For receiving Office use only

1. Date of actual receipt of the purported international application:	2. Drawings: <input type="checkbox"/> received: <input type="checkbox"/> not received:
3. Corrected date of actual receipt due to later but timely received papers or drawings completing the purported international application:	
4. Date of timely receipt of the required corrections under PCT Article 11(2):	
5. International Searching Authority (if two or more are competent): ISA /	6. <input type="checkbox"/> Transmittal of search copy delayed until search fee is paid

For International Bureau use only

Date of receipt of the record copy by the International Bureau:

This sheet is not a part of and does not count as a sheet of the international application.

PCT

FEE CALCULATION SHEET

Annex to the Request

For receiving Office use only

International Application No.

Date stamp of the receiving Office

Applicant's or agent's
file reference

PO2001-41PCT

Applicant

KIM, Young Sun

CALCULATION OF PRESCRIBED FEES

1. TRANSMITTAL FEE 45,000 T

2. SEARCH FEE 150,000 S

International search to be carried out by

(If two or more International Searching Authorities are competent to carry out the international search, indicate the name of the Authority which is chosen to carry out the international search.)

3. INTERNATIONAL FEE

Basic Fee

Where item (b) of Box No. IX applies, enter Sub-total number of sheets } 29
Where item (b) of Box No. IX does not apply, enter Total number of sheets }

b1 first 30 sheets 500,000 b1

b2 number of sheets in excess of 30 x fee per sheet = b2

b3 additional component (only if sequence listing part of description is filed in computer readable form under Section 801(a)(i), or both in that form and on paper, under Section 801(a)(ii):

400 x fee per sheet = b3

Add amounts entered at b1, b2 and b3 and enter total at B 500,000 B

Designation Fees

The international application contains all designations.

6 x 108,000 = 648,000 D
number of designation fees payable (maximum 6) amount of designation fee

Add amounts entered at B and D and enter total at I 1,148,000 I

(Applicants from certain States are entitled to a reduction of 75% of the international fee. Where the applicant is (or all applicants are) so entitled, the total to be entered at I is 25% of the sum of the amounts entered at B and D.)

4. FEE FOR PRIORITY DOCUMENT (if applicable) P

5. TOTAL FEES PAYABLE 1,343,000

Add amounts entered at T, S, I and P, and enter total in the TOTAL box

TOTAL

☐ The designation fees are not paid at this time.

MODE OF PAYMENT

☐ authorization to charge deposit account (see below) ☐ postal money order ☒ cash ☐ coupons
☐ cheque ☐ bank draft ☐ revenue stamps ☐ other (specify):

AUTHORIZATION TO CHARGE (OR CREDIT) DEPOSIT ACCOUNT

(This mode of payment may not be available at all receiving Offices)

☐ Authorization to charge the total fees indicated above.
☐ (This check-box may be marked only if the conditions for deposit accounts of the receiving Office so permit) Authorization to charge any deficiency or credit any overpayment in the total fees indicated above.
☐ Authorization to charge the fee for priority document.

Receiving Office: RO/

Deposit Account No.:

Date:

Name:

Signature:

PATENT COOPERATION TREATY

From the RECEIVING OFFICE

To:

JEON, Young Il

Trade Tower Room 4202, , World Trade Center,
Samsung-dong, Kangnam-gu, Seoul 135-729 Republic of
Korea(Roh & Yang Intellectual Property Law Office)

PCT

NOTIFICATION OF THE INTERNATIONAL APPLICATION NUMBER AND OF THE INTERNATIONAL FILING DATE

(PCT Rule 20.5(C))

Date of mailing
(day/month/year) 18 DECEMBER 2001 (18.12.2001)

Applicant's or agent's file reference

PO2001-41PCT

IMPORTANT NOTIFICATION

International application No.

PCT/KR01/02130

International filing date (day/month/year)

08 DECEMBER 2001 (08.12.2001)

Priority date (day/month/year)

31 JANUARY 2001 (31.01.2001)

Applicant

KIM, Young Sun

Title of the invention

HEAT DISSIPATION TYPE SEMICONDUCTOR PACKAGE AND METHOD OF FABRICATING THE SAME

1. The applicant is hereby notified that the international application has been accorded the international application number and the international filing date indicated above.

2. The applicant is further notified that the record copy of the international application:

☐ was transmitted to the International Bureau on _____

☐ has not yet been transmitted to the International Bureau for the reason indicated below and a copy of this notification has been sent to the International Bureau*:

☐ because the necessary national security clearance has not yet been obtained.

☐ because (reason to be specified):

* Where an international application with a priority claim of one or more earlier applications filed in KIPO designates KR, the earlier applications for which priority is claimed shall be deemed withdrawn at the expiration of 15 months from the filing date of the earlier applications. It is strongly recommended either to withdraw the designation of KR within the 15 months or to enter the Korean national phase by furnishing necessary translation for the international application within 20 or 30 months, depending on the case, from the date on which priority is claimed.

* The International Bureau monitors the transmittal of the record copy by the receiving Office and will notify the applicant (with Form PCT/IB/301) of its receipt. Should the record copy not have been received by the expiration of 14 months from the priority date, the International Bureau will notify the applicant (Rule 22.1(c)).

Name and mailing address of the receiving Office

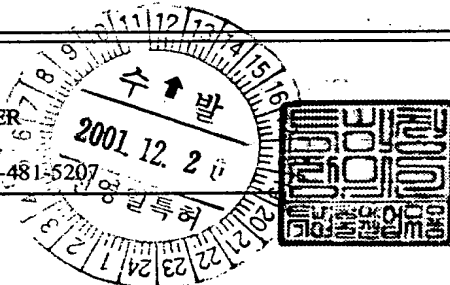
Korean Intellectual Property Office
Government Complex-Daejeon, Dunsan-dong, Seo-gu,
Daejeon Metropolitan City 302-701, Republic of Korea.

Facsimile No. 82-42-472-7140

Authorized officer

COMMISSIONER

Telephone No. 82-42-481-5207



(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
8 August 2002 (08.08.2002)

PCT

(10) International Publication Number
WO 02/061830 A1

(51) International Patent Classification⁷: H01L 23/36

(21) International Application Number: PCT/KR01/02130

(22) International Filing Date: 8 December 2001 (08.12.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2001/4711 31 January 2001 (31.01.2001) KR

(71) Applicant and

(72) Inventor: KIM, Young, Sun [KR/KR]; 101-903
Chungkye Byucksan APT., 258 Hawangsipri-dong,
Seungdong-gu (KR).

(74) Agent: JEON, Young, Il; #4202, Trade Tower, World
Trade Center, Kangnam-ku, Seoul 135-729 (KR).

(81) Designated States (national): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,

CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
MX, MZ, NO, NZ, OM, PII, PL, PT, RO, RU, SD, SE, SG,
SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN,
YU, ZA, ZM, ZW.

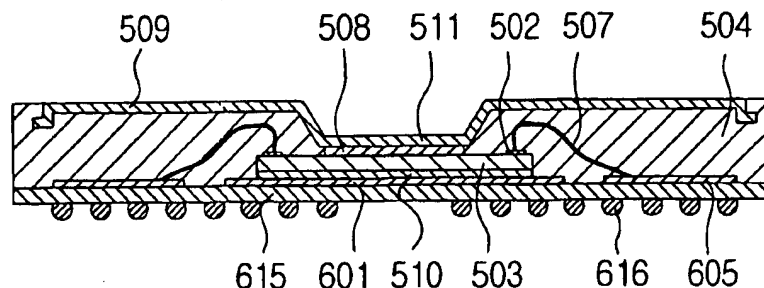
(84) Designated States (regional): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR,
GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent
(BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,
NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: HEAT DISSIPATION TYPE SEMICONDUCTOR PACKAGE AND METHOD OF FABRICATING THE SAME



(57) Abstract: The present invention relates to a heat dissipation type semiconductor package with a heat-radiating canopy molded thereon and a method of fabricating the same. According to the present invention, there is provided a heat dissipation type semiconductor package including a die paddle, a semiconductor chip mounted on the die paddle, and a lead frame. The heat dissipation type semiconductor package is characterized by comprising wires for electrically connecting bond pads formed on the semiconductor chip and inner leads in the lead frame; a heat-radiating canopy bonded on a top surface of the semiconductor chip; and a molding material for surrounding all of the die paddle, the semiconductor chip, the inner leads and a bottom surface of the heat-radiating canopy. The top surface of the heat-radiating canopy is exposed to the exterior, and a portion of the surface of the heat-radiating canopy, which is in contact with the semiconductor chip, is recessed.



WO 02/061830 A1

INTERNATIONAL SEARCH REPORT

national application No.
PCT/KR01/02130

A. CLASSIFICATION OF SUBJECT MATTER

IPC7 H01L 23/36

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

H01L 23/36 H01L 23/34 H01L 23/28

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean Utility models and applications for Utility models since 1975
Japanese Utility models and applications for Utility models since 1975

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

KIPASS "heat" "sink" "chip" "adhesive"

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US5616957 A (NEC CO.) 1 Apr 1997	1-4,9, 19-25
-----	See the whole document	-----
Y		5-8, 10-18, 26-50
Y	JP 6-232294 A (HITACHI LTD) 19 Aug 1994	1-50
	See the whole document	
Y	JP 08-139223 A (MITSUBISHI ELECTRIC CORP) 31 MAY 1996	1-50
	See the whole document	

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

28 MARCH 2002 (28.03.2002)

Date of mailing of the international search report

28 MARCH 2002 (28.03.2002)

Name and mailing address of the ISA/KR

Korean Intellectual Property Office
Government Complex-Daejeon, 920 Dunsan-dong, Seo-gu,
Daejeon Metropolitan City 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

YOU, Hwan Cheol

Telephone No. 82-42-481-5743



INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/KR01/02130

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5616957	1.4.1997	JP7321252	8.12.1995
JP 6232294	19.8.1994	NONE	
JP 8139223	31.5.1996	NONE	